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SEARCH

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SITE MAP

REQUEST A CATALOG

INTERNATIONAL ORDERS

FREEZING PROGRAM

GIVEAWAY

Home > Products > DNA/RNA Modifying Enzymes > RNases and Inhibitors > RNase Inhibitor

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- ▶ FAQs for DNA/RNA Modifying Enzymes
- ▶ DNA/RNA Modifying Enzymes Technical Reference

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- ▶ Enzyme Finder
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Competent Cells
Introductory Offer

RNase Inhibitor

Catalog #	Size	Concentration	Price	Qty	
M0307S	2,000 units	40,000 units/ml	\$60.00	1	ADD
M0307L	10,000 units	40,000 units/ml	\$240.00	1	ADD

Prices are in US dollars and valid only for US orders.

Download: MSDS PDF

Description:

RNase Inhibitor is a recombinant human placental protein which specifically inhibits ribonucleases (RNases) A, B and C (1). It is not effective against RNase 1, RNase T1, S1 Nuclease, RNase H from *Aspergillus*. In addition, no inhibition of polymerase activity is observed when RNase Inhibitor is used with Taq DNA Polymerase, AMV or M-MuLV Reverse Transcriptases, or Phage RNA Polymerase (SP6, T7, or T3).

The 50 kDa protein inhibits RNases by binding noncovalently in a 1:1 ratio with an association constant greater than 10^{14} (2).

Source:

An *E. coli* strain that carries the Ribonuclease Inhibitor gene from human placenta.

Reaction & Storage Conditions

Unit Definition:

One unit is defined as the amount of RNase Inhibitor required to inhibit the activity of 5 ng of RNase A by 50%. Activity is measured by the inhibition of hydrolysis of cytidine 2', 3'-cyclic monophosphate by RNase A.

Concentration:

40,000 units/ml

Storage Conditions:

20 mM HEPES-KOH
50 mM KCl
8 mM DTT
50% glycerol
pH 7.6 @ 25°C

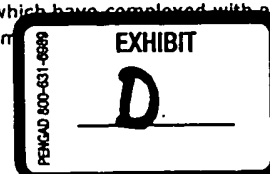
Storage Temperature:

-20°C

Notes

Usage notes:

1. Since ribonucleases typically retain activity under denaturing conditions, care must be taken to avoid denaturing RNase Inhibitor molecules which have complexed with a ribonuclease. To prevent the release of active ribonuclease, temperature should be kept low and high salt concentrations should be used.



concentrations of urea or other denaturing agents should be avoided.

Quality Control

Endonuclease Activity:

Incubation of 200 units of RNase Inhibitor with supercoiled plasmid produced no nicked molecules after a two hour incubation at 37°C as determined by gel electrophoresis.

Ribonuclease Assay:

Incubation of 200 units of RNase Inhibitor with 1 µg of RNA at 37°C for 1 hour resulted in no degradation of RNA as determined by gel electrophoresis.

DNase Assay:

Incubation of 200 units of RNase Inhibitor for 1 hour at 37°C with 50 ng of radiolabeled DNA resulted in 3% of the radioactivity.

Quality control values for a specific lot can be found on the datacard which accompanies each vial.

References

1. Blackburn, P. and Moore, S. (1982) Pancreatic Ribonucleases. *The Enzymes*, XV, Part 1, Academic Press, NY.
2. Blackburn, P., Wilson, G. and Moore, S. (1977) *J. Biol. Chem.*, 252,5904.

Companion Products

HiScribe RNAi Transcription Kit
ProtoScript® First Strand cDNA Synthesis Kit
ShortCut® RNAi Kit

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